

### **WHAT IS CLAIMED IS:**

1. A LED display having a light guide plate, comprising:

a LED display provided at a side with a display screen for displaying characters or graphics;

5 a light guide plate being light-transmission and disposed in the front of the LED display in corresponding to the display screen;

at least a light source, which has a luminous portion, after assembly, the luminous portion corresponds to the light guide plate and being able to project light into the light guide plate;

10 in this manner, the light of the light source can reflect in the light guide plate and can pass through it, so as to form light screen for providing an effect of multi-layer optical display.

2.The LED display having a light guide plate as claimed in claim 1, wherein the light source is LED Lamp.

15 3. The LED display having a light guide plate as claimed in claim 1, wherein the light source is SMD Lamp.

4. The LED display having a light guide plate as claimed in claim 1, wherein the LED display is disposed on a circuit board, and the light source is electrically connected to the circuit board.

20 5. The LED display having a light guide plate as claimed in claim 1, wherein the LED display is disposed on a circuit board, and the light source is inserted in the circuit board.

6. The LED display having a light guide plate as claimed in claim 1, wherein the luminous portion of the light source corresponds to  
25 a side of the light guide plate, such that light can be projected into the light guide plate via the side.

7. The LED display having a light guide plate as claimed in claim 1, wherein a front surface of the light guide plate is defined as a

main visual screen, whereas the main visual screen is provided at both sides with extension, and a reflection plane is defined between the main visual screen and the extension, such that the light of the light source can be projected via the extension into the light guide plate, and then  
5 projected on the main visual screen after being reflected by the reflection plane.